

Some notes on the Irrawaddy Dolphin, *Orcaella brevirostris* (Owen, 1866)

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According to FRASER (in NORMAN and FRASER, 1937 and 1948) the Irrawaddy Dolphin is found at the Bay of Bengal, Vizagapatam, Singapore and the Chantabun coast of Siam. A very nearly related form (cf subspecies of *O. brevirostris*) *Orcaella fluminalis* Anderson, 1871 occurs in the Irrawaddy River, Birma. FRASER stated the genus has never (up to that time) been found away from this south-east corner of Asia. Later on, the same author (in ELLERMAN and MORRISON-SCOTT, 1951) added the following localities to those already known: Java, Borneo, Straits of Malacca, east coast Malay Peninsula. GIBSON HILL (1949 and 1950) enumerates the species from Malay and Sarawak waters.

Kra River	Malay Peninsula	15. XII. 1956 20. V. 1958
Klang River	Port Swettenham	4. III. 1959
	Malay Peninsula	27. IV. 1959
		12. X. 1959
		20. II. 1960
Belawan Deli River	Sumatra	28. II. 1956
		5. III. 1956
		30. VIII. 1956
		4. IX. 1956
		19. XII. 1956
		15. II. 1957
		2. VI. 1957
		22. VII. 1957
		19. XII. 1957
		18. V. 1958
2. III. 1959		
29. IV. 1959		
Tandjong Pandan	Biliton	7/8. X. 1959
Rajang River	Borneo (west coast)	24.—26. IX. 1959
		17.—19. IV. 1960
		14.—17. V. 1963
Surabaya	Java (northeast coast)	23.—25. VII. 1956
		10.—13. VIII. 1956
		16.—21. I. 1957
		20.—22. VI. 1957
		28. III. 1959
Tjilitjap	Java (south coast)	11.—16. IV. 1955
Makassar	Celebes (southwest coast)	31. VII. 1956
Between Pulo Supiori and Pulo Biak	Western New Guinea	1958/1959
Mouths of muddy rivers	Western New Guinea (southwest coast)	1958/1960

Almost his entire life at sea (35 years), the author of these notes has been watching whales and dolphins and during the last 15 years he recorded systematically the numbers, species and localities of the animals seen. By doing so, he has the possibility to mention some other places where *Orcaella brevirostris* does occur and to enlarge therefore the known distribution area of this species. In the following table the localities are given where the author has seen Irrawaddy Dolphins (see page 367).

The last two observations are not by the author himself (School teacher at Korido; Captain and Officers "H. M. Luymes", Hydrographic Dept., Royal Netherlands Navy), but in view of the very detailed descriptions of the dolphins sighted, he considers the observations reliable. Especially as they are more or less confirmed by the recent find of two skulls of *O. brevirostris* on a beach at Melville Bay, Northern Australia (JOHNSON, 1964).

In 1902, WEBER (also in 1923) already reported the occurrence of the species at Long Iram on the Mahakam or Koetai River, more than 100 miles from sea at the eastern side of Borneo. The skull of a specimen from that locality is in the collections of the Zoological Museum in Amsterdam. In his 1923 paper WEBER published a review on the literature concerning *Orcaella brevirostris*.

In view of the abovementioned observations it is quite clear the species has a much larger distribution as originally supposed. The author would not be surprised if Irrawaddy Dolphins were found in waters around the southern Philippine Islands.

Irrawaddy Dolphins are confined to coastal waters and sometimes to large river-courses (e. g. Irrawaddy River, Birma; Mahakam River, Borneo). Mostly they occur in shallow (20–60 feet deep), preferable muddy, brackish waters at the entrances of rivers with considerable tidal streams. Seawater temperatures are very high there, above 27° C., mostly between 29°–30° C. The author has never seen them at sea, which he considers anywhere more than 1 mile from the coast. They share this characteristic with the members of the genus *Sotalia*. In many places they are seen together with dolphins belonging to that genus, although the schools never mix. Their behaviour is much the same; swimming and feeding against the tide, outward bound against the flood, inward bound against the ebb, thus e. g. covering about 10 miles in 6 hours (between the Outer buoy and the Harbour office of the Belawan Deli River). In bigger rivers (e. g. Rajang River, Sarawak) *Orcaella brevirostris* occurs further down stream than *Sotalia borneensis*, but both species are regularly seen at Tg Mani, 20 miles from sea. Irrawaddy Dolphins are mostly encountered in small schools of usually 3 to 5 specimens. In the Rajang River, on September 25, 1959, one immature animal, approximately half the length of the mother, was seen.

The normal breathing is 3 to 5 times with 10 second intervals followed by a deep dive of 30 to 70 second. At Port Swettenham they breathed 2 or 3 times with 10 second intervals and stayed under as long as 3 minutes, making no more progress than a few hundred yards to half a mile per deep dive. They are usually quiet and require constant and intensive watch to be noted. When coming up for air they show a good deal of the head, back and dorsal fin in succession. Therefore there are no difficulties in recognizing the species. The description of the intact animal as given by FRASER (loc. cit.) is good and also the picture of the Irrawaddy Dolphin published by that author, makes it easy to recognize. He only saw them frisky once, jumping just out of the water, full length, in horizontal position. This was at Port Swettenham harbour, where the full flood going round a bend in the sea-arm is forced sideways into the Klang River and causes a considerable turbulence.

Fig. right. Map of Southeast Asia, the Indo-Australian Archipelago and North Australia with the localities where specimens of the species *Orcaella brevirostris* (Owen, 1866) have been seen (after own data and literature)



The colour of all Irrawaddy Dolphins seen by the author was uniformly very dark grey. In some publications (e. g. FRASER, 1937, 1948 and WEBER, 1923) the colour is given as slate-blue or steel-blue. Whether these differences are due to local variations or to another way of defining colours is not clear yet.

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Observations in flight Reactions of *Tursiops truncatus* (Mont.) with some Suggestions on flight Planning

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The newly established Dolfinarium at Harderwijk, Holland, which incorporates a small research group, recently acquired (summer, 1965) four adult *Tursiops truncatus* from Aquatics International, Berlin, New Jersey, U.S.A.

On July 2, 1965 the authors accompanied the animals by truck from Berlin, New Jersey to Kennedy International Airport, New York, then by K.L.M. DC 8 on their normal freight service from New York to Amsterdam and from Amsterdam by truck to Harderwijk. During the transoceanic flight the authors were assisted by a very able KLM animal attendant. This attendant was placed at their disposal through the good graces of the KLM airline. The first lap of the trip took three hours, the flight seven hours and the last lap one and one half hours. The total time elapsed between the removal of the first dolphin from water until the last was placed into the new pool was sixteen hours.

About two months previously these same animals experienced a 32 hour trip by truck from Florida to Berlin, New Jersey. During both trips each animal was slung in a modified hammock, a method of transport that was found to be least traumatic and distressing. The absence of struggling or any aberrations in heart rate or body temperature attested to this. The animals ate readily when hand fed immediately after they were placed into water after the trip. Nevertheless some observations were made during the flight which we feel were significant.